

a description of the best electrical instruments of domestic manufacture, but without this, it is yet worthy of a place in the library of every American physician. F. A. B.

ART. XXXV.—*Smithsonian Contributions to Knowledge*, 241. *A Contribution to the History of the Fresh-water Algæ of North America*. By HORATIO C. WOOD, JR., M.D., Professor of Botany and Clinical Lecturer on Diseases of the Nervous System in the University of Pennsylvania. 4to. pp. viii., 262, 21 coloured plates. Washington, 1873.

THE young physician who has a microscope and a wish to use it (leisure may be taken for granted), will find that this book will enable him to commence the study of the algæ with good prospect of success; and if he will consider the information to be derived from Dr. Wood's work as merely the alphabet of the matter; that is as giving the characteristic modes of growth and reproduction of the several genera, and enabling the student to identify the forms which he will commonly meet; and will then carefully work out some of the numerous problems presented in the development of a few species, "looking beyond his microscope," he will find that his time has been well spent.

In the algæ may be studied cell growth and multiplication in their simplest forms; and the phenomena of life may be watched without the need of complicated apparatus and tedious dissections. There is no more certain method of increasing the height of the pyramid of medical science than by extending its base; and no field promises more to the physiologist and the physician than that of cryptogamic botany. Thus far it has for the most part happened that those who have called attention to the possible connection between these lower organisms and the science of medicine, have not allowed the want of material to prevent their building, and the result has been the reverse of stability.

Before deciding that certain small green cells are the causes of disease, it may be well to learn something about them; whether they may be young moss cells or gonidia of a collema; botrydium, chroococcus, or a palmella, all of which have within our own knowledge been taken for the ague plant, and any of which will in certain stages correspond sufficiently to the original description of that famous organism.

Dr. Wood's work furnishes to American microscopists the necessary foundation for further investigations, and it is greatly to be regretted that no similar work exists for the minute fungi.

The plates are well drawn and coloured, and are of more value than many pages of description, as means of identification of forms. The magnifying power is given for each figure; but it would have been more convenient had the three or four scales used been placed on each plate. The work is commended to all practical microscopists as a valuable book of reference. J. S. B.

ART. XXXVI.—*Lessons in Elementary Anatomy*. By ST. GEORGE MIVART, F.R.S. Lecturer on Comp. Anat. at St. Mary's Hospital, etc. 12mo. pp. xxvi., 535. London: MacMillan & Co., 1873.

THE design of this book is to present anatomy in a shape which will enable the medical student and the general reader to gain an insight into the structure

of animals. It is in fact a handbook of comparative anatomy. The author divides the work into lessons, as follows: The general review of the subject; the skeleton in general; the skeleton of the head; the upper limb; the lower limb; the internal skeleton; the external skeleton, including the teeth, feathers, etc.; the muscles; the nerves and organs of sense; the organs of circulation; the alimentary organs; and the excretory organs; thus making twelve lessons. They are of varying length, and the amount of space devoted to the skeleton is fully one-half of the entire volume. This predominance has been deliberately assigned, we are informed, for the following reasons: (1) The general resemblance borne by the skeleton to the external form; (2) The close connection between the arrangement of the skeleton and of the nervous system, muscles, and vessels; (3) The relations borne by the skeleton of each animal to the actions it performs, i. e., to the mode of life, and habits of the various animals; (4) The obvious utility of the skeleton in classification, and interpretation of affinity; (5) Parts of skeletons, or casts of such, are all we possess of a vast number of animals formerly existing in the world but now entirely extinct.

The language of the author is generally clear and aided by copious illustrations—there being 410 wood-cuts, most of them originals, interpolated through the text.

Of the author's claim to consideration there can be no doubt. He is known as an original investigator of the higher groups of Vertebrates, and the proposer of an ingenious modification of the accepted theory of the vertebrate skeleton. But with all due deference to his authority we cannot but believe that the amount of space occupied by the osseous system is too large, and his method of presentation of many of his facts, both here and elsewhere, is not the best. Thus the consideration of the teeth, among the parts of an external skeleton, we hold to be faulty. The homological relations they may have to the proper dermal outgrowths do not compensate in our opinion for the enormous disadvantage the student labours under in studying the dental system apart from the alimentary canal—all its physiological relations are with the latter. Mr. Mivart would apparently have us enumerate the teeth among the bones of the human skeleton. Indeed there is too little attention given to the relation of structure to function throughout the book. We read among the remarks on the digestive organs that "the stomach (in animals) may be very much shorter than in man; and indeed, its depth may exceed its length, as is the case in the *Ornithorhynchus*, and some Insectivora, e.g., *Rhynchocyon*. It may be also globular, as in the fish *Mormyrus*." Nothing unites these remote and very dissimilar forms but the short longitudinal diameter of the stomach, which is surely an unimportant fact. There is scarcely an intimation, anywhere in the lesson on the alimentary system, of the correlation between the structure of the digestive tract and the kinds of food consumed.

In the section on the Circulation, the absence of comment, on the relations between the conformation of the heart and the character of the circulation, is particularly noticeable. We may premise that the chief object of a demonstration of the cardiac series is to indicate that the differences between the kinds of bloods have something to do with the hearts themselves. The structure of the heart of the fish indicates a venous character of the cardiac blood, that of the batrachian and reptile for the most part a mixed character, that of the bird and mammal a complete separation of two currents, a venous and an arterial. Certain structures of the heart of air-breathing types, such as the *ductus arteriosus* and the *foramen ovale*, are of primary importance in such a demonstration; and in our judgment no "elements" of instruction can properly omit some mention of them. Yet in our author's description of the human heart

and great vessels nothing is said of the *ductus arteriosus*; nor is the fœtal circulation in man described with a view of aiding the student in comprehending the heart having a mixed blood.

We may take exception to the assertion that the dental arch is interrupted in all living mammals below man excepting the lemur *Tarsius*; some of the bats having the same peculiarity. Nor can we accept the use of the word "beast" to small mammals—as when he speaks of apes and "other beasts as the hedge-hog." He appears to apply the term to all the mammals—seeking, perhaps, in the vernacular for a word expressing a milk-yielding quadruped. We believe that most readers would prefer its application to those animals used by man for "food, labour, or support." The use of the term "Ape" is also here seen in a decidedly exceptional way—for, instead of restricting it to the old world forms, it is given to the new world as well.

The attempt to write for two distinct classes of readers may explain some of these features of the volume. It is not for us to reflect upon the accuracy of the author's judgment other than to remark that an omission of the anatomy of the organs of generation, while fitting the volume for the academy, materially impairs its usefulness to the medical man. But so far as it goes the latter will find in it a mass of information relative to the structure of animals not to be found in any other volume, and presented in a pleasing form.

H. A.

---

ART. XXXVII.—*Surgical Diseases of Infants and Children*. By M. P. GUERSANT, Hon. Surgeon of the Hôpital des Enfants Malades, Paris. Translated from the French by RICHARD J. DUNGLISON, M.D. 8vo. pp. 354. Philadelphia: Henry C. Lea, 1873.

THIS work is familiar to many readers of the Journal, having been published in the *Medical News and Library*, so that, as its character is pretty fully known, we shall call attention to only a few of the points which have struck us upon a re-perusal of it.

M. Guersant disclaims any intention of writing a comprehensive treatise upon infantile surgery, his sole object having been to embrace within the pages of his book those affections incident to childhood, which he has met with sufficiently often to have made them the subject of special study, and to pronounce opinions based upon the results of his own observation. That these opinions are worthy of careful consideration will be evident when we remember that for twenty years their author enjoyed the advantage of the practice of the Hôpital des Enfants Malades; yet, whoever disregards the great mass of the current literature upon the subject of which he treats will assuredly do as M. Guersant has done, write a book in many points behind the age in which he lives.

He advises, except in those cases of imperforate natural openings which brook no delay, to postpone operating upon children until they are at least two or three weeks old; by so doing, he thinks, more satisfactory results will be reached than where an operation is done immediately after birth. By waiting a short time an opportunity is given to vaccinate the child, and individual peculiarities may be learned, while we shall be spared the mortification of seeing the operation marred by an unexpected outbreak of inherited syphilis or an attack of variola.